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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/075,362	02/14/2002	Kunio Shimizu	KON-1714	8865
20311	7590	04/29/2004	EXAMINER	
MUSERLIAN AND LUCAS AND MERCANTI, LLP 475 PARK AVENUE SOUTH NEW YORK, NY 10016			HON, SOW FUN	
			ART UNIT	PAPER NUMBER
			1772	

DATE MAILED: 04/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/075,362

Applicant(s)

SHIMIZU ET AL.

Examiner

Sow-Fun Hon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-21 is/are pending in the application.
- 4a) Of the above claim(s) 11-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-10, 19-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Response to Amendment

Withdrawn Rejections

1. The 35 U.S.C. 102(b) and 103(a) rejections in the office action mailed 12/16/03 have been withdrawn due to the amendment filed 03/16/04.

New Rejections

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 3-6, 8-10, 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida (US 5,806,834) in view of Gloor (US 2,412,611), as evidenced by Morflex, Inc. (previously cited).

With respect to claims 1, 3-6, Yoshida has a cellulose ester (acetate) film (column 5, lines 40-45) comprising particles (column 8, line 54) in an amount of 0.01 to 0.1 weight parts (column 9, lines 1-5) which is within the claimed range of from 0.0001 to 0.3 % by weight (claim 1), and a plasticizer (column 5, lines 40-50). The particles can be of silicon dioxide (column 8, lines 55-60) which is a species of the genus silicon oxide (claim 8).

With respect to claim 9, cellulose triacetate (column 5, lines 25-30) has a total acyl (acetate) substitution degree rounded off to 3, and thus meets the claimed range of from 2.55 to 2.85.

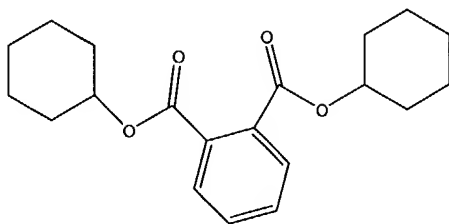
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Yoshida teaches that the plasticizer can be phthalate esters such as dimethyl phthalate, diethyl phthalate and dimethoxyethyl phthalate (column 5, lines 40-45). Yoshida fails to teach dicyclohexyl phthalate which has the claimed formula (1).

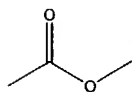
Gloor teaches that cellulose ester (acetate) (column 1, lines 40-45) is plasticized with phthalate esters such as dimethyl phthalate, diethyl phthalate, dimethoxyethyl phthalate and dicyclohexyl phthalate (column 8, lines 15-25), demonstrating that dicyclohexyl phthalate is equivalent to dimethyl phthalate, diethyl phthalate and dimethoxyethyl phthalate, as a phthalate ester plasticizer for cellulose ester (acetate).

Therefore it would have been obvious to one of ordinary skill in the art to have used dicyclohexyl phthalate in place of dimethyl phthalate, diethyl phthalate and dimethoxyethyl phthalate in the cellulose ester (acetate) film of Yoshida because of its equivalence as a phthalate ester plasticizer for cellulose ester (acetate), as demonstrated by Gloor.

Morflex, Inc. shows that dicyclohexyl phthalate has an embodiment shown below, which meets the claimed structure of formula (1), as defined by Applicant's specification (page 18, figure 1-16).



In the specific embodiment above, Y of Applicant represents an ester bond shown below:



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and $R_a = -C(=O)OR_c$ wherein R_c = unsubstituted cyclohexyl group, and wherein $m = 1$ and $n = 0$ so that $R_b = 0$ (claims 1, 3-6).

With respect to claim 3, the alternate Markush group embodiments of Y of Applicant, where $Y = R^1C(=O)O-$, $-C(=O)OR^2$, $-C(=O)O-R^3-OC(=O)-$, $-OC(=O)-R^4-C(=O)O-$, wherein $R^1 = R^2 = R^3 = R^4$ = substituted or unsubstituted alkylene group, are homologs of the compound shown above, and are thus obvious variations in the absence of a showing of unexpected results.

With respect to claim 5, the alternate Markush group embodiment of $n = 1$ to 5 means that there is a substituent group R_b of Applicant on the cyclohexyl group on the right of the structure shown above. Since R_b can be an alkyl group, the alternate Markush group embodiments of Y of Applicant are homologs of the compound shown above, and are thus also obvious variations in the absence of a showing of unexpected results.

With respect to claims 19-20, Yoshida teaches a liquid crystal display which employs a polarizing plate comprising the cellulose ester (acetate) film (column 1, lines 5-10).

With respect to claim 21, Yoshida teaches that the average particle size of 0.001 to 1.0 μm (column 8, lines 65-70), which means that the average secondary particle size (aggregates of primary particles of 0.001 μm) would overlap the claimed average secondary particle size of 0.1 to 1.0 μm .

With respect to claim 10, Yoshida gives an example of a film thickness of 80 μm (column 11, lines 10-15). The claimed range of from 10 to 60 μm is thus the result of routine experimentation. Although Yoshida fails to teach that the cellulose ester (triacetate) film has a moisture vapor transmittance of from 20 to 200 $\text{g/m}^2 \cdot 24 \text{ hr}$, and a rate of weight change falling within the range of $\pm 2\%$ in which the rate is represented by the ratio of the difference between

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the film weights before and after storage at 80 C and 90% RH for 48 hours to the film weight before storage, a solvent used to dissolve the film composition is dichloromethane (column 10, lines 60-65). This solvent is hydrophobic, meaning that the cellulose ester (acetate) is hydrophobic in order to dissolve in it. Thus the claimed moisture vapor transmittance and rate of weight change in humid conditions are inherent due to the hydrophobic nature of the cellulose ester film.

3. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida in view of Gloor, as evidenced by Morflex, Inc. as applied to claims 1, 3-6, 8, 10, 19-20 above, and further in view of Joseph (previously cited US 2,038,114).

Yoshida has been discussed above and teaches a cellulose ester film comprising particles and a plasticizer compound. In addition, Yoshida teaches the addition of a UV absorbent (ultraviolet absorber) (column 3, lines 25-30) and that the solvent used in forming the cellulose ester (acetate) film can be dichloromethane (column 10, lines 60-65). Yoshida fails to teach that the UV absorbent has a distribution coefficient of not less than 8.5.

Joseph teaches a cellulose ester film (acetate sheet) (column 1a, line 25) which comprises a UV absorbent which is transparent (colorless) in the visible light region and absorbs (opaque) to ultra violet light (column 1b, lines 20-25). Joseph teaches that the particular UV absorbent (light-absorbing substance) depends on the method of manufacture of the film (sheet) material which will determine whether or not to use a compound with a low distribution coefficient (soluble in water) or with a high distribution coefficient (insoluble in water) (column 2a, lines 5-15) as defined by Applicant's specification which describes the distribution coefficient as being a

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measure of the ratio of the solubility of the compound in octanol divided by the solubility of the compound in water (page 32, paragraph 4).

Therefore it would have been obvious to one of ordinary skill in the art to have used a UV absorbent with a distribution coefficient of not less than 8.5 for the UV absorbent in the cellulose ester film of Yoshida because the cellulose ester film is processed with dichloromethane solvent which requires that the UV absorbent be soluble in it for uniform dispersion.

Response to Arguments

4. Applicant's arguments with respect to claims 1, 3-10, 19-21 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication should be directed to Sow-Fun Hon whose telephone number is (571)272-1492. The examiner can normally be reached Monday to Friday from 10:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached at (571)272-1498. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SH

Sow-Fun Hon

04/22/04

[Signature]
HAROLD PYON
SUPERVISORY PATENT EXAMINER
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4/26/04